

## CLIMATOLOGICAL DATA FOR SEPTEMBER, 1911.

## DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

## GENERAL SUMMARY.

The month was cool and wet and especially noted for the phenomenally heavy rainfall in the Willamette Valley, which was greater than ever before recorded in the last 40 years. These heavy rains were caused by a series of depressions over the inter-Mountain States that were prevented from advancing eastward by the slow movement of large high-pressure areas over the Canadian Northwest and the upper Missouri Valley. Fears were entertained that these rains would cause a dangerous rise in the river and also damage the hop and prune crops, which were then being harvested. No rise of consequence, however, occurred in the river, and the damage to the crops was much less than expected. There were no severe windstorms and the general conditions, except as noted, were favorable for construction and farm work. The many frosts and thunderstorms did no harm to the staple crops, which were too far advanced to be injured by frost, and as the thunderstorms were not accompanied by high winds they were beneficial rather than otherwise. The entire season has been especially favorable for the lumber industry, as good stages were maintained in the logging streams and the fire losses were much less than usual. No serious interruptions to railway traffic occurred, but country roads in places became so muddy that there was considerable delay in hauling produce from the farms to the railroads.

## TEMPERATURE.

Temperatures were unseasonably low over the entire district during September. The greatest departure from normal was  $-7.8^{\circ}$ , at Williams, Oreg., and at several other places in western Oregon the mean temperatures were more than  $3^{\circ}$  below the seasonal average. In the Puget Sound country the departures were least, broad areas considered, but even here at certain places the differences were considerable. The warmest weather of the month at most places occurred on the first two days, but this was followed by much cooler weather, which prevailed for the rest of the month. The minimum temperature at a majority of points occurred on the 24th and 25th, but there was not so marked a uniformity in the occurrence of the lowest temperatures as in the occurrence of the highest, and a number of stations, particularly in Idaho, reported the minimum as taking place on the 18th of the month.

The mean temperature for the month, as determined from the records of 254 stations, was  $53.7^{\circ}$ , which is  $1.9^{\circ}$  below the district normal for September. The highest temperature recorded was  $101^{\circ}$ , at Garnet, Idaho, on the 1st, and the lowest  $10^{\circ}$ , at Chesterfield, Idaho, on the 16th. The greatest daily range was  $61^{\circ}$ , at Chesterfield, Idaho, on the 1st.

## PRECIPITATION.

Precipitation exceeded the normal amount for September throughout the district, southern Idaho and southeastern Oregon alone being excepted. The heaviest

rainfall occurred in the Willamette Valley in Oregon and in the Cascade Mountains in Oregon and Washington. Considering the heavy precipitation, which was general in the interior of western Oregon and western Washington, the amounts along their coasts were comparatively light. For example, at Portland the rainfall for the month was over 5 inches, while on the coast, 60 miles westward, it was about 2 inches. Over southeastern Oregon and southern Idaho the amounts were insignificant and totaled less than 1 inch over most of this section. More than 80 per cent of the rainfall in Oregon and Washington fell during the first half of the month. Considerable snow fell in the mountains and higher valleys of Montana and lesser amounts were reported from the high Wyoming ranges.

The average precipitation, as determined from the records of 365 stations, was 1.95 inches, an average excess over the normal September rainfall of 0.75 inch. Considering individual States, the excess above normal in Oregon was 1.40 inches and in Washington 1.01 inches. The greatest monthly amount was 11.24 inches at Musick, Douglas County, Oreg. The elevation of this station is 5,000 feet. There were three stations in Washington at which no rain fell during the month. The greatest 24-hour precipitation was 3.86 inches, at Musick, on the 5th.

## THE RIVERS.

The Willamette River averaged above normal for September and the Columbia and Snake Rivers below, but the departure was not large on any of the streams. Heavy rains on the west side of the Cascade Range produced a rapid rise in the Willamette River and its tributaries during the fore part of the month, but owing to the dryness of the soil much of the water was absorbed in the watershed, greatly diminishing the run-off and preventing as high water in the streams as could have been expected later on in the season with saturated ground. The mean stage in the Willamette exceeded that of the preceding month, but water in the Columbia and Snake Rivers averaged decidedly lower than in August.

The average stage in the Willamette River was 0.4 foot above the normal stage for September. The highest water occurred from the 6th to the 10th of the month and the lowest water between the 1st and 5th.

The Columbia River was at about the normal stage for September. The departure at The Dalles was  $-0.9$  foot and at Cascade Locks  $-0.7$  foot. The highest water occurred generally during the first 10 days of the month and lowest on the 30th.

The Snake River showed an average stage of 0.2 foot below normal. The lowest water occurred early and the highest water late in the month.

## MISCELLANEOUS.

A great many thunderstorms occurred during September. They seemed to be confined to no particular district, but were reported from nearly all sections. As

large number occurred on the 1st and 2d, and from the 11th to the close of the month they were general. The larger number occurred in the mountainous country and in the basin and plateau region to the eastward of the Cascade Range. More than 40 stations in the State of Oregon alone reported one or more thunderstorms.

Killing frosts occurred at over a dozen stations in Oregon, and light to heavy frosts at a good many more points in Washington and Idaho. Damage was not general, however, being confined to limited areas.

Sunshine was deficient in Washington, particularly west of the Cascade Mountains. It was somewhat below normal in northwestern Oregon, but elsewhere in the district there was about the usual amount.

The average wind direction was from the west, and the highest velocity reported was 56 miles an hour from the southeast at North Head, Wash., on the 14th.

#### **WATER RESOURCES IN OREGON AND THEIR DEVELOPMENT.**

By JOHN T. WHISTLER, Member American Society of Civil Engineers.

A prominent man in public affairs said recently with reference to certain of our country's natural resources: "There is but one protection—an awakened public opinion. That is why I give you the facts."

It is certainly very true that if we are to make the most of our natural resources there must be a wide general knowledge of what they are and the conditions surrounding them.

More than six years ago I had the privilege of conveying to the joint committee on irrigation of the Oregon State Legislature, then in session, the offer of the Director of the United States Geological Survey to allot, from the Federal appropriation for stream-gaging work, an amount equal to whatever the State legislature would appropriate for the same purpose, not exceeding \$25,000 per annum; that is, if the State would appropriate \$25,000 for stream-gaging work in Oregon, the United States Geological Survey would allot from the Federal appropriation a similar amount, making \$50,000 per annum for stream-gaging work.

Other States, more keenly alive to the value of such work, promptly accepted similar offers, and it is not now so easy to get the full amount originally offered.

What the State legislature actually did, was to appropriate only 10 per cent of the full amount offered, or \$2,500. The United States Geological Survey, true to its offer, allotted an equal amount each year. This year, as a result of the continued agitation, the State legislature appropriated a total of \$25,000 for hydrographic and topographic work, about \$10,000 of which goes to stream-gaging work. The United States Geological Survey has allotted a similar amount.

#### **QUANTITY OF WATER AS AFFECTING IRRIGATION, WATER-POWER DEVELOPMENT, AND NAVIGATION.**

Taking up the features of water resources having more direct reference to quantity. I wish to show the shortsightedness displayed in developing a knowledge of what the resources of this character are in the State of Oregon.

About the first things an engineer must consider in either an irrigation or a water-power project are, What are the mean daily discharges, what is the minimum discharge and its duration, and what is the maximum rate of discharge that will have to be taken care of. The latter will not be determined by 10 or 25 years' records, or even a 100-year record, as witnessed in the recent flood of the

river Seine in France. Such reports will be of value, though, in aiding to form a judgment of what it may be. The mean daily discharges, however, and the probable yearly variation from them in the future, will be fairly well known, and this can not be even reasonably determined in any other way.

It makes no difference how valuable such information would be to the State of Oregon, directly or indirectly, to-day or to-morrow, concerning some stream of which such gagings and records have not been made and kept, no amount of money can obtain them now. It costs very little money as compared to its value, but it requires years of time.

I can call to mind irrigation projects which would involve the expenditure of many millions in construction in Oregon, but which can not be financed at the present time because of the very meager knowledge of the available water supply. The same can be said of power projects. If the people generally could only realize the value of this knowledge I feel the demand for a still larger appropriation by the legislature would be such as to make it one of the first acts of the next session.

The value of this knowledge of stream flow is not alone in connection with the development of new projects, but it is also in the better and more equitable distribution of existing water rights. Last year my attention was called to a news item from Roswell, N. Mex., in which it was stated that since the completion of the Hondo project by the Reclamation Service some two years prior, the reservoir had not received a drop of run-off. I understand that this was true, and that practically the same conditions have continued to the present time.

The Sweetwater Dam in southern California was completed to a height of 95 feet in 1895. It created a storage reservoir of 22,500 acre-feet capacity. During the eight years prior to this the run-off at the dam had averaged nearly this amount, though over two-fifths of it ran off in one year. The total run-off for the next nine years was less than half enough to fill the reservoir once, and probably barely supplied evaporation. During four of these years there was absolutely no run-off at the dam, and three of these years were successive.

After 10 years, during which the total run-off was not sufficient to fill the reservoir once, the supply has again been abundant, and the dam this year has again been increased by sufficient to approximately double the capacity of the reservoir. This is practically the fourth time the dam has been increased, yet there is little doubt that if a better knowledge had been available of the stream's characteristics the dam would never have been commenced.

The feeling is yet prevalent with most Oregonians that irrigation in the Willamette Valley would be like "carrying coals to Newcastle," but it is a fact that the average precipitation in this valley during the growing season is less than in many of the arid regions. This is well illustrated in the diagram, Fig. 1, compiled from the records of the United States Weather Bureau and published by the Oregon Conservation Commission, which has undertaken to promote irrigation in the Willamette Valley.

A knowledge of water resources is not complete when we have made analyses of the character of all our waters and have obtained long records of rate of discharge, as we also want to know what can be done to increase the minimum discharge of a stream. This is as true for power development as for irrigation. The minimum flow of a stream usually determines the maximum economic development of a power project, because a power good for only nine months in the year has little demand, and the instal-

TABLE 1.—Climatological data for September, 1911. District No. 12, Columbia Valley.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of partly cloudy days.	Number of cloudy days.		
<b>Montana.</b>																			
Anaconda.	Deer Lodge.	5,300	10	49.8	- 1.9	82 <sup>a</sup>	1	26 <sup>a</sup>	25	44 <sup>a</sup>	1.28	+ 0.01	0.58	6	20	4	6	C. D. Demond.	
Butte.	Silver Bow.	5,710	17	50.9	- 1.9	83	1	29	25	37	1.20	+ 0.01	0.45	4	12	3	15	nw. J. R. Wharton.	
Columbia Falls.	Flathead.	3,100	16	51.0	- 2.1	94	2	23	25	48	1.35	- 0.79	0.38	1.0	9	11	8	s. J. M. Brist.	
Como **.	Ravalli.	3	50.9	86	1	30	19 <sup>a</sup>	37	2.10	1.13	0	11	14	6	10		Hiram Platt.		
East Anaconda.	Deer Lodge.	5,500	6	50.7	82	1	28	23	33	1.11	-	0.70	0.3	7	20	4	6	C. D. Demond.	
Fortine.	Lincoln.	2,975	6	51.2	87	11	21	24 <sup>a</sup>	59	1.71	-	0.80	0	5	7	8	15	Mike Petery.	
Hamilton.	Ravalli.	3,575	8	52.8	82	1 <sup>a</sup>	29	25	34	1.90	-	1.70	0	2	14	12	4	w. Bitter Root Val. Irrigation Co.	
Hat Creek.	Powell.	6,000	2	52.8	86	2	26	25	37	1.92	-	1.01	2.9	7	13	8	15	M. K. Landreth.	
Kalispell.	Flathead.	2,965	13	51.0	- 2.9	86	2	26	25	37	2.75	+ 1.42	1.51	T.	11	9	13	8 w. U. S. Weather Bureau.	
Libby.	Lincoln.	2,055	2	52.8	-	-	-	-	-	-	-	-	-	-	-	-	-	U. S. Forest Service.	
Lost Creek.	Deer Lodge.	5,200	2	52.8	-	-	-	-	-	-	-	-	-	-	-	-	-	Frank Henault.	
McGinnis Meadows.	Lincoln.	3,225	32	54.5	- 1.3	93	1	25	25	45	1.31	+ 0.07	0.47	6	-	-	-	II. L. Bebee.	
Missoula.	Missoula.	8,800	2	52.8	-	-	-	-	-	-	-	-	-	-	-	-	-	U. S. Weather Bureau.	
Ophir.	Powell.	4,207	12	55.0	+ 4.4	90	18	30	24 <sup>a</sup>	50 <sup>a</sup>	1.88	- 0.18	0.80	1.5	10	14	13	3 w. E. S. Wilton.	
Ovando.	Granite.	5,275	8	49.14	84 <sup>a</sup>	10 <sup>a</sup>	20 <sup>a</sup>	25	50 <sup>a</sup>	1.18	-	0.49	0	8	29	1	1 w. S. B. Muchmore.		
Philipsburg.	Sanders.	2,475	13	53.3	- 2.4	89	1	25	25	41	3.16	+ 1.66	0.75	3.0	5	16 <sup>a</sup>	3 <sup>a</sup> G. T. Bramble.		
Pleasant Valley.	Flathead.	3,500	4	48.1	87	2	21	25	57	4.01	-	2.00	0	5	16	0	14 sw. M. H. Pierce.		
Polson.	do.	2,920	4	55.2	87	1	34	7 <sup>a</sup>	33	2.40	-	1.50	0	11	7	17	6 A. D. Stillman.		
Proctor.	do.	2,800	7	51.9	87	2	30	19 <sup>a</sup>	37	2.15	-	1.30	0	6	4	15	0 F. P. Brown.		
Saint Ignatius.	Missoula.	2,700	6	53.2	89	1 <sup>a</sup>	24 <sup>a</sup>	25	41 <sup>a</sup>	3.02	-	0.99	0	13	8	12	10 C. E. Proctor.		
Saint Regis.	do.	2,650	4	52.8	-	-	-	-	-	-	-	-	-	-	-	-	U. S. Reclamation Service.		
Saltese.	do.	3,600	7	52.8	-	-	-	-	-	-	-	-	-	-	-	-	R. D. Lee.		
Stevensville.	Ravalli.	2,462	1	54.6	92 <sup>a</sup>	1	27	25	44 <sup>a</sup>	1.81	-	0.60	0	11	12	6	12 w. E. K. Tarbox.		
Thompson Falls.	Sanders.	5,064	1	48.9	81 <sup>a</sup>	10 <sup>a</sup>	23	24	43 <sup>a</sup>	1.16	-	0.70	0.5	5	8	12	10 J. S. Birge.		
Willow Glen Stock Farm.	Deer Lodge.																	R. H. Bushnell.	
																		G. E. Luce.	
<b>Wyoming.</b>																			A. V. Call.
Afton.	Uinta.	6,200	7	48.8	-	90	1	16	18	50	1.45	-	0.52	0	6	20	2	8 sw. Mrs. Lucy Brown.	
Alta.	do.	7,000	1	48.8	-	82	2	16	18	50	1.38	-	0.42	0.1	12	7	8	15 sw. U. S. Army.	
Bechler River.	Yellowstone Park.																	C. G. Heiner.	
Bedford.	Uinta.	5,900	11	49.5 <sup>b</sup>	- 2.0	81	11	16	17	49 <sup>b</sup>	0.73	- 0.14	0.50	0	3	12 <sup>b</sup>	6 <sup>b</sup>	4 <sup>b</sup> U. S. Reclamation Service.	
Moran.	do.	5,900	5	47.3	-	79	11	18	20 <sup>a</sup>	46	1.37	-	0.40	0	10	20	0	10 sw. U. S. Army.	
Snake River.	Yellowstone Park.																		
<b>Nevada.</b>																			A. W. King.
San Jacinto.	Elko.		6	56.2	-	89	1	16	17	55	-	-	0	-	11	13	6	sw. Mose Jones.	
<b>Utah.</b>																			
Standrod.	Boxelder.		6	56.6	-	85	1	30	18	39	1.39	-	0.84	0	2	21	6	3 s. T. B. Jones.	
<b>Idaho.</b>																			G. A. Axline.
Albion.	Cassia.	4,560	12	55.1	- 1.9	92	2	22	18	56	0.53	- 0.20	0.29	0	3	15	10	5 w. William D. Cahoon.	
Almo.	do.	3	-	-	-	-	-	-	-	-	0.97	-	0.61	0	3	19	10	1 s. J. W. King.	
Alpha.	Boise.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Harry W. Hall.	
American Falls.	Oneida.	4,341	20	52.8 <sup>a</sup>	- 5.1	91	2	16	18	59	0.56	- 0.11	0.56	0	1	21	0	9 s. E. A. Dowd.	
Blackfoot.	Bingham.	4,503	16	55.6	- 1.9	87	1 <sup>a</sup>	24	18	47	0.78	+ 0.25	0.35	0	3	14	16	0 sw. N. W. Irsfeld.	
Blackfoot Dam.	Bannock.	6,200	2	54.4	-	81	2	27	18	38	1.46	-	0.63	0	6	13	7	10 sw. F. P. Ingraham.	
Bogus Creek.	Boise.	4,200	3	52.8	-	87	1	25	20	50	1.99	-	-	-	-	-	-	U. S. Weather Bureau.	
Boise.	Ada.	2,739	26	60.2	- 1.7	93	1	35	17	37	0.04	- 0.37	0.02	0	3	14	11	5 n. W. H. Heideman.	
Bonners Ferry.	Bonner.	1,850	5	53.2	-	92	2	28	24	50	2.20	-	0.67	0	9	7	13	10 sw. Patrick Moriarty.	
Boulder Mine.	Boise.	4,800	2	52.8	-	92	2	28	24	50	2.20	-	0.33	0	5	17	6	7 Hugh Taylor.	
Buhi.	Twin Falls.	3,800	5	60.6	-	92	2 <sup>a</sup>	32	28	49	T.	-	0.17	0	5	0	0 w. Wm. Taylor.		
Caldwell.	Canyon.	2,372	7	57.3	-	90	1 <sup>a</sup>	28	18	44	0.12	-	0.12	0	1	14	16	0 w. Mrs. Ednah Faulkner.	
Camas.	Fremont.	4,815	3	52.8	-	98	2	26	18	51	T.	- 0.59	0.10	0	3	14	11	5 Chas. H. Shepherd.	
Cambridge.	Washington.	2,651	16	58.2	- 2.0	98	2	26	18	51	T.	- 0.59	0.10	0	3	14	11	5 Robert Hoffman.	
Cedar Creek Dam.	Twin Falls.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Chas. S. West.	
Chesterfield.	Banuock.	5,424	15	52.0	+ 0.5	96	1	10	16	61	2.23	+ 1.57	0.72	0	6	20	11	5 n. R. L. Sutcliffe.	
Clyde.	Custer.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Dick Ross.	
Cottonwood Creek.	Boise.	4,000	2	52.8	-	77	1	23	29	41	1.08	-	0.39	T.	6	15	9	6 sw. Frank Hedrick.	
Council.	Adams.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Dick Ross.	
Culdesac.	Adams.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R. R. Richmond.	
Deary.	Nez Perce.	1,520	3	57.2	-	95	1	29	25	55	1.31	-	0.80	0	3	19	3	8 H. P. Henry.	
Dent.	Clearwater.	1,350	5	60.0	-	99	1 <sup>a</sup>	31	25	53	1.83	-	0.50	0	6	11	14	5 Emil Schueller.	
Driggs.	Fremont.	6,097	4	50.6	-	93	2	17	18	46	0.84	-	0.30	T.	5	7	9	14 sw. Walter H. Durrant.	
Edie.	do.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Geo. B. Edie.	
Emmet.	Canyon.	2,350	4	57.4	-	87	12	30	17	49	-	-	0.55	0	2	2	11	17 C. P. Kar.	
Forney.	Lemhi.	14	47.8	- 3.3	83	12	17	18	53	2.08	+ 1.01	1.06	0	2	2	11	17 M. B. Merritt.		
Garden Valley.	Boise.	3,600	5	52.8	-	88	4	17	18	56	1.11	-	0.14	0	1	22	0 sw. Mrs. Gertrude M. R. Asa A. Kenison.		
Garnet.	Elmore.	2,575	12	65.0	- 1.0	101	1	36	27	48	0.00	- 0.32	0.00	0	0	10	12	8 sw. I. E. Perkins.	
Glenns Ferry.	do.	2,568	3	61.5	-	101	2	24	27	58	0.00	-	0.00	0	0	20	3	7 John Krall, Jr.	
Gooding.	Lincoln.	3,572	2	58.2	-	96	1	24	27	52	T.	-	0	0	17	2	2 sw. Henry Kottkey.		
Grand Forks.	Shoshone.	3,000	3	50.9	-	93	1	20	25	55	2.58	-	0.94	0	6	12	10 sw. N. G. Massey.		
Grandview.	Owyhee.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Joseph M. Clarke.	
Grimes Pass.	Boise.	5,200	2	52.8	-	98	1	34	18 <sup>a</sup>	45	0.05	-	0.02	0	4	25	5	0 w. Fred Perry.	
Gufley.	Owyhee.	2,381	3	63.3	- 1.6	89	1	27	17 <sup>a</sup>	42	0.03	-	0.3						

TABLE 1.—Climatological data for September, 1911. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Number of rainy days, 0.01 inch or more.	Number of clear days.	Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of partly cloudy days.	Number of cloudy days.						
<i><b>Idaho—Continued.</b></i>																					
Meridian.	Ada.	2,657	1	59.3	.....	93	1†	30	17†	47	0.13	.....	0.09	0	3	13	11	6	nw.	A. W. Garrett.	
Mesa.	Adams.	3,275	2	59.2*	.....	93	2	18	16	48 <sup>b</sup>	T.	.....	0.09	0	0	9	0	21	n.	I. S. Carter.	
Middle Fork.	Idaho.	1,250	2	57.4*	.....	94	2	32	25	42 <sup>d</sup>	2.30	.....	0.90	0	4	16	8	6	w.	Jos. McGhee.	
Milner.	Twin Falls.	4,110	7	59.3	—2.2	93	2	30	18†	48	0.85	.....	0.80	0	2	16	8	6	nw.	James K. Young.	
Moscow.	Latah.	2,748	20	55.2	—2.2	93	2	30	24	40	0.86	—0.36	0.50	0	3	8	16	6	nw.	University of Idaho.	
Mountainhome.	Elmore.	3,150	6	58.0	.....	97	1	22	27	53	T.	.....	0.0	0	0	16	14	0	nw.	Mrs. Elley Manion.	
Murtaugh.	Twin Falls.	5	55.8	.....	91	2	25	18	52	0.12	.....	0.12	0	1	8	16	10	4	w.	J. E. Steinour.	
Nez Perce.	Lewis.	3,082	2	54.0	.....	90	2	24	23†	49	1.74	.....	0.58	0	8	16	10	4	sw.	P. Mitchell.	
Oakley.	Cassia.	4,700	18	59.6	+ 0.1	94	4	31	18	49	0.30	—0.47	0.20	0	2	7	22	1	s.	John Adams.	
O'Hara Bar.	Idaho.	1,400	2	56.2	.....	89	1	30	25	41	1.76	.....	0.61	0	9	6	19	5	sw.	J. D. Agnew.	
Orofino.	Clearwater.	1,027	7	59.2	.....	98	2	28	25	48	1.29	.....	0.69	0	5	3	25	2	sw.	Geo. Alteneder.	
Payette.	Canyon.	2,159	20	59.8	-1.9	97	2	29	18†	49	T.	—0.57	T.	0	0	19	5	6	n.	E. F. Allen.	
Peaceful Valley.	do.	2,325	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.80	0	7	9	4	17	sw.	J. W. Newton.	
Pebble.	Bannock.	5,277	3	52.6	.....	97	1	16	15†	53	1.70	.....	0.90	0	8	12	11	7	sw.	Mrs. Fannie Say.	
Pierson.	Custer.	7,000	3	53.9	.....	84	4	18	8†	52	T.	.....	0.0	0	19	2	9	s.	David P. Clarke.		
Pleasant Valley.	Ada.	3,000	4	58.8	.....	96	1	27	23	45	0.02	.....	0.02	0	1	22	5	3	nw.	C. E. Friedrich.	
Pocatello.	Bannock.	4,483	12	59.1	-1.6	90	2	31	18	39	0.60	—0.28	0.32	0	7	12	11	7	se.	U. S. Weather Bureau.	
Pocatello Nursery.	do.	5,396	5	53.3	.....	87	2	22	18	48	1.33	.....	0.59	0	4	19	3	8	sw.	P. T. Wrensted.	
Poplar.	Bonneville.	1	59.4	.....	86	1	26	17	40	1.04	.....	0.35	0	4	9	18	3	s.	C. M. Lawrence.		
Porthill.	Bonner.	1,665	22	51.7	-2.1	81	1	25	18	49	0.08	.....	0.05	0	2	16	11	9	s.	H. A. French.	
Pyle Creek.	Bolsoe.	3,100	2	.....	2	57.6	.....	94	1	25	18	49	0.17	.....	0.14	0	2	14	13	w.	P. V. Smith.
Richfield.	Lincoln.	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.34	+ 1.87	3	9	4	17	sw.	Idaho Irrigation Co.	
Roseberry.	Boise.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	0	2	2	26	1	nw.	Rev. H. S. Barstow.	
Roseworth.	Twin Falls.	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.06	.....	0	2	3	26	w.	D. B. Hartwell.	
Rupert.	Lincoln.	4,204	5	56.3	.....	88	1†	27	18	49	0.10	.....	0.10	0	1	20	3	7	sw.	Will Parry.	
St. Maries.	Kootenai.	2,263	15	53.8	-3.3	89	2	25	25	42	1.16	—0.29	0.41	0	6	7	12	11	sw.	J. S. Turnbull.	
Salmon.	Lemhi.	4,040	6	53.2	.....	87	1	28	18†	43	1.31	.....	0.52	0	7	15	13	2	w.	B. C. d'Easum.	
Salmon River Dam.	Twin Falls.	4	59.0b	.....	91b	1	29b	18	44b	0.13	.....	0.08	0	3	14	11	5	nw.	P. W. Farrar.		
Sandpoint.	Bonner.	2,086	2	52.8	.....	89	2	21	25	44	2.22	.....	0.71	0	10	8	9	13	n.	J. H. Edgerton.	
Sheep Hill.	Boise.	5,000	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.22	.....	0	3	13	9	8	sw.	Clifford M. Gardner.
Shoshone.	Lincoln.	3,968	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.01	0	1	16	11	3	nw.	Zell Truman.	
Silver City.	Owyhee.	6,280	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.79	0	9	16	7	7	ne.	A. D. Bradfield.	
Soldier Creek.	Blaine.	1	52.2	.....	84	1	25	17†	41	0.26	.....	0.21	0	2	9	14	7	7	sw.	J. E. Minear.	
Split Lake.	Kootenai.	2	54.1	.....	93	2	21	25	52	2.25	.....	0.56	0	5	12	10	8	sw.	M. C. Krause.		
Springfield.	Bingham.	4,420	3	55.8	.....	92	2	22	18	49	0.26	.....	0.21	0	2	9	14	7	sw.	Mrs. W. A. Edwards.	
Sugar.	Fremont.	4	52.0	.....	83	2	21	16	46	1.23	.....	0.76	0	0	0	0	0	0	nw.	Utah-Idaho Sugar Co.	
Sunnyside.	Elmore.	2	59.0	.....	95	1	29	17	45	T.	.....	0.0	0	0	0	0	0	0	nw.	E. A. Wilnot.	
Tripod Mountain.	Boise.	4,300	2	.....	.....	.....	.....	.....	.....	.....	.....	0.37	.....	0.26	0	2	15	11	4	sw.	Mrs. Verna Paddock.
Twin Falls.	Twin Falls.	3,825	6	57.7	.....	94	1	26	19	55	0.10	.....	0.10	0	1	12	15	3	w.	J. A. Waters.	
Vernon.	Fremont.	14	53.6	-1.0	86	1	22	15	45	0.95	+ 0.06	0.47	0	4	9	18	3	sw.	A. M. Staltry.		
Wallace.	Shoshone.	2,728	4	52.6	.....	92	2	28	25	41	2.04	.....	0.59	0	0	0	0	0	e.	U. S. Weather Bureau.	
Weiser.	Washington.	2,114	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	0	0	15	10	5	w.	Jos. B. Estabrook.	
Wendell.	Lincoln.	3,400	3	60.2	.....	99	1	26	27	52	T.	.....	0.0	0	0	15	10	5	w.	Chas. L. Dingler.	
<i><b>Washington.</b></i>																					
Aberdeen.	Chehalis.	162	20	55.5	-2.1	76	2	35	25	39	3.98	—0.63	.93	0	15	5	24	1	w.	C. S. Weatherwax.	
Anacortes.	Skagit.	60	17	55.2	.....	78	1	37	24†	34	2.71	+ .96	.67	0	13	4	22	4	sw.	Douglas Allmond.	
Baker.	do.	200	5	58.0	.....	80	1	36	25	37	4.82	.....	.81	0	13	7	7	16	sw.	Robt. M. White.	
Bellingham.	Whatcom.	60	16	56.4	+ 0.2	76	11	33	24†	38	3.18	+ .53	.80	0	12	18	7	5	sw.	Sanford B. Mayhew.	
Bellingham, near.	do.	107	5	54.8	.....	74	1	32	24†	30	3.85	.....	.94	0	14	10	10	10	sw.	U. S. Bureau of Plant Industry.	
Beverly.	Grant.	545	14	54.6	+ 0.7	73	1	31	25†	34	3.46	—0.07	.50	0	16	5	17	8	se.	John W. Sheets.	
Blaine.	Whatcom.	57	14	54.6	—0.7	73	1	31	25†	34	3.46	—0.07	.50	0	16	5	17	8	se.	John Burmeister.	
Blewett.	Chelan.	2,200	1	.....	.....	.....	.....	.....	.....	.....	2.08	.....	.84	0	10	7	15	9	sw.	U. S. Navy Yard.	
Bremerton.	Kitsap.	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.57	0	7	15	9	6	sw.	Mrs. H. F. Bertram.	
Brewster.	Okanogan.	1,620	1	58.0	.....	93	2	34	23†	33	1.18	.....	.83	0	11	7	8	15	sw.	U. S. Reclamation Service.	
Bumping Lake.	Yakima.	3,400	49.2	.....	85	2	28	24†	33	1.47	.....	5.58	0	1.61	0	15	5	20	sw.	George Landsburg.	
Cedar River.	King.	535	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.0	0	12	7	12	11	s.	I. S. Turner.	
Centralia.	Lewis.	212	18	56.8	-1.6	81	1	32	25	38	4.36	+ 1.80	1.57	0	12	7	12	11	s.	State Normal School.	
Cheney.	Spokane.	2,351	12	51.7	-3.8	92	2	23	24	48	2.85	+ 1.89	.89	0	11	17	5	8	nw.	J. A. Balmer.	
Clearbrook.	Kittitas.	1,930	12	51.7	-3.8	92	2	23	24	48	5.39	—0.01	1.13	0	16	5	13	12	s.	George Gibbs.	
Colfax.	Whitman.	140	8	54.4	.....	81	1	27	26	49	5.39	—0.01	.90	0	3	22	9	8	sw.	I. B. Doolittle.	
Colville.	Stevens.	2,300	20	55.0	-1.2	94	2	22	24†	53	1.11	—0.01	.75	0	6	8	10	12	sw.	W. L. Barnes.	
Conconully.	Okanogan.	1,635	11	55.4	-1.1	95	2	23	25	53	1.28	+ .49	.42	0	9	8	5	17	sw.	Wm. Barnes.	
Cowiche.	Yakima.	1,874	11	56.6	.....	89	2	36	23	29	1.99	.....	.82	0	9	18	9	3	nw.	U. S. Reclamation Service.	
Crescent.	Lincoln.	2,250	11	54.8*	-2.2	91	2	25	25	40	4.25	—0.23	.50	0	3	20	9	1	nw.	Otto Wollweber.	
Davenport.	do.	2,450	2	54.0	.....	91	2	29	23†	37	1.11	—0.40	.40	0	7	16	6	8	sw.	James I. Thayer.	
Dayton.	Columbia.</td																				

TABLE 1.—*Climatological data for September, 1911. District No. 12—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.						
<i>Washington—Contd.</i>																					
La Crosse.	Whitman.	1,400	2	56.3	.....	92	1	24	23†	45	1.25	.....	.96	0	6	16	8	6	w.		
Lake Clealum.	Kittitas.	2,171	28	57.0	- 4.7	84	1	38	28	36	3.58	.....	.94	0	19	5	8	17	nw.		
Lake Kachess.	do.	2,235	3	52.1	.....	83	1	28	25	37	4.99	.....	1.11	0	14	7	13	10	e.		
Lake Keechelus.	do.	2,479	3	47.9	.....	60	1	25	25	41	6.41	.....	1.19	0	16	3	12	15	w.		
Lakeside.	Chelan.	1,116	20	59.9	- 2.0	90	1	35	25	33	0.64	+ .14	1.8	0	7	5	13	10	w.		
Laurel.	Klickitat.	1,900	2	56.5	.....	96	2	23	25	52	1.36	.....	1.31	0	9	6	23	1	w.		
Laurier.	Ferry.	1,644	1	56.5	.....	82	1	29	24	39	5.99	.....	.80	0	17	8	0	22	nw.		
Lester.	King.	1,614	7	54.0	.....	65	24	45	22	15	2.44	.....	.49	0	13	4	20	6	w.		
Lone Tree.	Chehalis.	14	2	56.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.		
Longmire Springs.	Pierce.	2,800	2	.....	.....	.....	.....	.....	.....	.....	1.23	.....	.33	0	7	6	16	8	se.		
Lost Creek.	Okanogan.	3,125	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	w.		
Lucerne.	Chelan.	1,100	4	.....	.....	.....	.....	.....	.....	.....	1.23	.....	.33	0	7	6	16	8	n.		
McConihe.	Grant.	1,072	2	59.5	.....	97	2	35	23†	43	1.41	.....	.98	0	7	14	6	10	sw.		
McCumbres Ranch.	Yakima.	2,182	2	.....	.....	.....	.....	.....	.....	.....	4.20	.....	1.70	0	9	9	14	7	c. c. ward.		
Moses Lake.	Grant.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Mottinger.	Benton.	307	11	63.5	- 3.0	96	1†	40	25	35	.96	+ .40	.40	0	7	23	2	5	w.		
Mount Pleasant.	Clallam.	500	52.6	.....	.....	75	1	37	23†	22	2.49	.....	.93	0	11	8	5	17	nw.		
Moxee.	Yakima.	1,000	19	58.8	- 1.1	96	2	30	25	43	1.87	+ 1.45	.69	0	11	15	7	8	nw.		
Newport.	Stevens.	2,400	1	52.9	.....	92	2	23	25	51	1.77	.....	.51	0	10	8	18	4	sw.		
North Head.	Pacific.	211	9	54.8	- 1.4	64	25	47	30	13	1.25	+ .30	.65	0	16	6	9	19	nw.		
Northport.	Stevens.	1,350	12	56.2	.....	92	2	31	24	46	1.47	- .13	.55	0	13	14	2	14	.....		
North Yakima.	Yakima.	1,070	2	58.5	.....	90	1†	37	16†	30	2.21	.....	.86	0	8	17	6	7	nw.		
Nutland.	Klickitat.	2	59.4	.....	.....	92	1	36	24	35	1.59	.....	.52	0	8	14	13	3	sw.		
Odessa.	Lincoln.	1,540	8	56.4	.....	93	2	29	22†	46	1.32	.....	.92	0	4	14	13	3	nw.		
Olga.	San Juan.	50	21	55.2	- 0.3	71	1	41	30	19	2.90	+ .67	.68	0	14	9	10	11	nw.		
Olympia.	Thurston.	200	33	55.8	- 1.1	85	1	34	24	37	3.84	+ 1.05	1.04	0	15	7	8	15	.....		
Onak.	Okanogan.	850	2	60.4	.....	97	2	25	23	47	1.15	.....	.08	0	3	10	9	11	n.		
Oroville.	do.	922	2	59.6	.....	94	2	27	23	38	.82	.....	.45	0	6	8	20	2	n.		
Parker.	Yakima.	5,000	2	.....	.....	.....	.....	.....	.....	.....	1.69	.....	.64	0	9	14	11	4	nw.		
Peota.	Garfield.	1,500	19	57.9	- 3.9	89	2	30	25	40	1.71	+ .66	1.25	0	4	10	17	3	w.		
Pomeroy.	do.	259	16	50.3	- 2.2	66	11	32	26	25	2.52	+ .29	.93	0	12	3	14	13	s.		
Port Crescent.	Clallam.	80	21	56.2	- 0.8	77	1	41	23	24	3.04	+ 1.84	.93	0	9	11	4	15	nw.		
Port Townsend.	Jefferson.	2,550	19	56.7	- 2.0	92	2	29	24	38	1.92	- .42	.50	0	5	16	11	3	sw.		
Pullman.	Whitman.	.....	.....	54.9*	.....	76b	3†	34a	24†	32b	3.65	.....	1.09	0	19	16	5	9	w.		
Quets River.	Chehalis.	300	4	56.6	.....	89	1	36	25†	44	8.46	.....	2.30	0	18	6	14	10	w.		
Quinault.	do.	2,928	11	53.2	- 0.9	92	2	20	25	51	5.19	.....	.33	0	14	6	5	19	nw.		
Republic.	Ferry.	1,135	4	58.6*	.....	87	1	39	24†	31b	2.55	.....	.80	0	7	5b	11b	12b	nw.		
Rex Creek.	Chelan.	1,825	12	56.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Ritzville.	Adams.	1,910	5	59.8*	.....	93*	2	40	22	30a	1.27	.....	.81	0	2	15	8	7	sw.		
Rock Lake.	Whitman.	2,425	19	54.6	- 1.6	90	2	30	23	36	0.81	- .35	.55	0	7	15	6	9	sw.		
Rossalia.	do.	2,870	2	.....	.....	.....	.....	.....	.....	.....	3.00	.....	1.10	0	10	14	6	10	w.		
Russells Ranch.	Yakima.	123	20	57.1	- 0.8	75	1	42	24	18	3.27	+ 1.34	1.64	0	10	3	10	17	s.		
Seattle.	King.	38	14	55.6	- 1.9	79	2	33	26	32	5.27	+ 1.98	1.50	0	15	7	13	10	nw.		
Sedro-Woolley.	Skagit.	1,240	4	59.5	.....	94	1	37	29	33	1.51	.....	.57	0	7	16	9	5	sw.		
Sixprong.	Klickitat.	510	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Skagit Power Dam.	Whatcom.	100	17	58.7	+ 1.5	80†	1†	38†	19	32†	2.01	- 1.17	.85	0	10	11	6	13	nw.		
Snohomish.	do.	667	12	56.0	- 1.3	82	1	32	24†	37	5.82	+ 2.76	1.10	0	17	11	6	13	sw.		
Snoqualmie Falls.	King.	2,200	2	52.4*	.....	92*	2	23a	23†	31	1.58	.....	.41	0	9	7a	11a	11b	e.		
Snyders Ranch.	Okanogan.	16	55.7	- 3.6	79	1	38	24†	32	3.03	- .26	.68	0	16	11	10	9	w.			
South Bend.	Pacific.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Spokane.	Spokane.	1,943	30	56.6	- 2.2	92	2	31	25	36	.75	- .26	.47	0	9	6	9	15	sw.		
State University.	King.	170	2	56.4	.....	77	1	41	24	19	2.30	.....	.88	0	11	10	6	14	s.		
Stokes Ranch.	Okanogan.	2,670	2	.....	.....	.....	.....	.....	.....	.....	1.33	.....	.49	0	6	18	7	5	nw.		
Sumner.	Pierce.	77	3	52.8*	.....	75	1	32*	24	30*	4.79	.....	1.78	0	16	10	7	13	sw.		
Sunnyside.	Yakima.	730	16	58.3	- 2.4	93	2	32	23†	40	1.32	+ 1.85	.78	0	7	11	15	4	nw.		
Tacoma.	Pierce.	213	25	55.8	- 1.8	74	2	37	23	24	4.70	+ 2.23	1.54	0	14	4	6	20	nw.		
Tatoosh Island.	Clallam.	86	26	52.6	- 0.4	61	1	43	24	14	4.14	- 2.00	1.11	0	14	6	3	16	sw.		
Tieton.	Yakima.	2,000	2	52.5	.....	90	2	29	23†	39	4.14	.....	1.06	0	13	10	8	12	w.		
Tonasket.	Okanogan.	945	60	64.0	.....	93	2	31	23	34	.83	.....	.29	0	5	10	8	12	n.		
Toucheet.	Walla Walla.	556	4	59.8	.....	93	2	27	25	44	0.81	.....	.45	0	4	14	14	2	sw.		
Toucheet Ridge.	Columbia.	2,500	2	.....	.....	.....	.....	.....	.....	.....	5.28	.....	.28	0	7	3	20	7	nw.		
Trinidad.	Douglas.	900	1	62.6	.....	97	2	41	23†	36	1.58	.....	.70	0	4	18	7	5	nw.		
Vancouver.	Clarke.	100	36	58.6	- 2.3	84	1	35	24	35	4.88	+ 3.17	1.23	0	13	6	11	13	nw.		
Vashon Island.	King.	40	22	55.4	- 1.8	73	2	40	23	23	3.29	+ 1.10	1.30	0	13	8	4	18	s.		
Wahluke.	Grant.	410	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Wallace.	Okanogan.	4,000	2	.....	.....	.....	.....	.....	.....	.....	2.65	.....	1.05	0	11	8	12	10	s.		
Walla Walla.	do.	1,000	27	61.2	- 4.2	93	1	42	25	27	1.45	+ .52	.56	0	8	13	4	4	w.		
Washougal.	Skamania.	650	11	55.7	- 4.6	79	1	36	24	30	6.09	+ 3.44	1.42	0	15	14	8	8	w.		
Waterville.	Douglas.	2,624	21	53.5*	- 3.2	92*	2	26	23	41	1.50	+ 1.01	.39	0	8	16*	3*	10*	w.		
Wenatchee, near.	Chelan.	1,169</																			

TABLE 1.—Climatological data for September, 1911. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.					
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days.	0.01 inch or more.					
Oregon—Continued.																					
Corvallis	Benton	266	23	54.0	- 6.1	87	1	33	17	36	4.27	+ 2.89	1.22	0	17	9	6	15	w.	Oreg. Agr. College.	
Crescent	Klamath	4,400	54.2	78	17	33	28	33	2.82	1.08	T.	0	11	14	3	13	n.	A. M. Caisse.			
Dayville	Grant	2,200	17	55.8	- 3.6	90	1	27	24	46	0.95	+ 0.18	0.43	0	7	13	13	4	nw.	Dr. J. Cambell-Martin.	
Deadwood	Lane	350	1	57.4	-	86	1	49	25	36	4.40	-	1.60	0	10	12	6	12	nw.	Jos. Slemmons.	
Doraville	Columbia	600	10	57.8	-	81	1	43	13	28	3.06	-	0.53	0	19	2	13	15	nw.	Jos. Hackenberg.	
Drain	Douglas	300	9	57.8	-	87	1	35	24	39	4.29	-	1.17	0	16	10	12	8	nw.	Ira Wimberly.	
Echo	Umatilla	625	7	61.1	-	97	1	32	24	39	1.05	-	0.44	0	5	17	7	6	w.	R. B. Stanfield.	
Ella	Morrow	830	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Carl F. Troedson.		
Eugene	Lane	449	21	56.3	- 3.7	83	1	39	18†	31	4.91	+ 3.29	1.36	0	13	6	17	7	nw.	F. L. Barker.	
Fairview	Coos	142	15	52.8	-	71	4	37	16	27	2.64	-	0.45	0	11	17	0	13	sw.	Wm. Bettys.	
Falls City	Polk	355	14	56.0	- 2.0	88	1	36	22†	41	4.86	+ 2.37	1.28	0	13	13	12	5	e.	Chas. F. Vick.	
Forest Grove	Washington	230	22	57.2	- 2.3	78	9	33	23	36	4.56	+ 3.02	1.02	0	10	0	13	17	n.	Pacific University.	
Gardiner	Douglas	72	21	59.6	+ 1.1	76	7	40	23	24	4.17	+ 1.44	1.40	0	10	11	4	15	J. S. Gray.		
Glendale	do.	1,441	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B. J. Simpson.		
Glenora	Tillamook	575	20	55.8	- 1.5	88	1	31	25	42	5.30	- 0.21	2.01	0	13	10	6	14	sw.	Mrs. Jennie A. Reehler.	
Gold Beach	Curry	40	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	L. N. Ford.		
Granite	Grant	4,680	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	John B. Paddock.		
Grants Pass	Josephine	956	23	58.5	- 2.5	97	17	32	18	50	1.45	+ 0.56	0.50	0	5	13	7	10	se.	Agent O. W. R. & N. Co.	
Grass Valley	Sherman	2,381	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Portland Waterworks.		
Headworks	Clackamas	719	9	49.1	-	80	1	29	18	28	7.60	+ 4.16	1.33	0	11	8	12	10	se.	Frank Gilliam.	
Heppner	Morrow	1,950	21	55.8	- 4.2	88	1	33	24	37	1.34	+ 0.29	0.46	0	7	11	13	5	nw.	C. W. Kellogg.	
Hermiston	Umatilla	451	4	61.0	-	94	1	26	23	49	0.66	-	0.23	0	6	15	8	7	w.	Carl T. Hubbard.	
Hermoso Rio	Crook	2,300	51.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	nw.	H. L. Hasbrouck.		
Hood River	Hood River	300	21	56.2	- 3.4	82	2	33	23	38	3.65	+ 2.16	1.50	0	5	16	5	9	e.	L. Connell.	
Huntington	Baker	2,165	10	63.0	-	98	1	34	26	44	T.	-	0.47	T.	0	0	5	25	0	e.	E. Britt.
Jacksonville	Jackson	1,640	23	58.8	- 3.4	86	1	37	18	43	1.17	+ 0.26	0.31	0	6	18	5	7	nw.	F. F. McCully.	
Joseph	Wallowa	4,400	22	52.8	- 0.6	87	1	26	23	43	1.33	+ 0.21	0.62	0	6	2	14	14	nw.	C. T. Canfield.	
Kerby	Josephine	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.	Edson C. Watson.	
Klamath Agency	Klamath	4,169	3	48.2	-	88	1	22	9†	60	0.70	-	0.70	0	1	18	4	8	nw.	W. H. Heileman.	
Klamath Falls	do.	4,100	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	nw.	W. A. Worstell.	
La Grande	Union	2,784	24	55.5	- 3.5	94	1	25	24	47	0.76	- 0.34	0.25	0	9	13	12	5	sw.	Bert Rice.	
Lakeview	Lake	4,825	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	s.	Geo. Frissell.	
McKenzie Bridge	Lane	1,400	10	55.1	- 2.9	85	1	27	24	50	6.34	+ 3.96	1.52	0	14	10	3	17	nw.	M. E. Pettit.	
McMinnville	Yamhill	182	24	60.4	- 2.9	88	1	34	30	37	3.92	+ 1.88	1.50	0	11	7	17	6	nw.	U. S. Weather Bureau.	
Marshfield	Coos	34	10	55.6	- 1.7	68	3†	37	24	28	3.01	-	0.90	0	14	-	-	-	nw.	Do.	
Medford	Jackson	1,425	59.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	nw.	Mrs. Agnes Ritchson.	
Merrill	Klamath	4,070	5	50.4	-	81	1†	23†	18	49	0.51	-	0.27	0	2	18	5	7	nw.	W. E. Lottman.	
Metolius	Crook	3,600	-	54.5	-	89	1	31	18†	42	2.02	-	0.74	0	5	-	-	-	nw.	Frank Little.	
Milkalo	Gilliam	1,400	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	n.	G. Muecke.	
Miramonte Farm	Clackamas	195	23	56.7	- 1.7	77	1	35	24	33	7.97	+ 5.81	2.02	0	15	8	11	11	n.	L. A. Peek.	
Monroe	Benton	350	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	nw.	Dr. Urban Fisher.	
Mount Angel	Marion	485	24	58.2	-	88	3	40	18	32	7.12	-	2.21	0	16	11	6	13	sw.	S. G. Babson.	
Mount Hood	Hood River	1,650	1	54.8	-	82	1	30	24	36	5.01	-	1.66	0	8	14	11	5	w.	Alex. Lundberg.	
Musick	Douglas	5,000	2	46.4	-	70	1	31	17†	25	11.24	-	3.86	1.0	16	8	4	18	sw.	Wm. Matthews.	
Newport	Lincoln	69	24	55.8	- 0.2	70	13	40	23†	24	2.68	-	0.03	0.55	0	7	9	12	9	nw.	E. C. Woodward.
Paisley	Lake	4,500	8	53.8	-	81	1	35*	17†	34*	1.31	-	0.62	0	3	16b	7b	9b	w.	Orrin C. Mills.	
Paulina	Crook	4,000	5	54.2	-	88	2	21	14	56	0.48	-	0.17	0	4	12	7	11	sw.	E. F. Averill.	
Pendleton	Umatilla	1,070	22	58.8	- 2.5	99	1	24	24	51	0.77	- 0.12	0.30	0	6	10	17	5	nw.	John P. McManus.	
Pilot Rock	do.	1,817	3	58.8	-	98	1	34	24†	43	0.97	-	0.40	0	5	17	11	2	nw.	John Coalman.	
Pompeii	Clackamas	3,879	16	46.2	- 5.3	73	9	29	24	38	6.87	-	1.60	0	12	9	12	9	sw.	U. S. Weather Bureau.	
Portland	Multnomah	57	41	58.4	- 2.2	82	1	43	24	24	5.19	+ 3.35	2.88	0	16	3	8	19	sw.	J. D. Loucks.	
Port Orford	Curry	80	6	56.2	-	69	2	41	22	24	1.54	-	0.50	0	9	16	9	5	n.	A. M. F. Kirchheimer.	
Prairie City	Grant	3,425	54.7	-	-	98	1	29	29	50	1.06	-	0.34	0	7	15*	8*	4*	nw.	George Summers.	
Prineville	Crook	2,864	15	55.7	- 1.3	91	1	30	19	54	0.68	+ 0.03	0.37	0	2	20	6	4	nw.	E. F. Graham.	
Prospect	Jackson	2,800	5	53.6	-	84	1	26	17	51	0.83	-	1.22	0	11	8	17	5	w.	Mrs. Iva B. Collins.	
Ramsey	Wasco	1,350	10	53.2	-	85	1	31	23	35	4.83	-	1.84	0	6	18	4	8	w.	Mrs. Emma Aruckle.	
Range	Grant	3,500	3	51.8	-	87	1	26	24†	50	0.15	-	0.05	0	4	11	9	10	w.	E. E. Foote.	
Redmond	Crook	53.0	-	86	1	28	24	40	-	-	-	-	0	0	15	5	10	sw.	L. G. Morgan.		
Richland	Baker	2,350	10	57.1d	-	90	12	29	18†	47	0.16	-	0.08	0	2	17	10	3	nw.	Mrs. Leah Fairman.	
Riverside	Malheur	3,000	12	53.4	- 5.0	90	1	18	24	55	0.20	- 1.90	0.20	0	1	-	-	-	nw.	U. S. Weather Bureau.	
Roseburg	Douglas	510	33	57.8	- 2.7	84	1	37	24	36	2.84	+ 1.80	1.73	0	14	9	15	6	sw.	M. P. Baldwin.	
Salem	Marion	120	21	57.2	- 3.6	84	1	40	24†	28	4.56	+ 2.92	2.11	0	12	9	18	8	n.	L. W. Charles.	
Silver Lake	Lake	4,700	14	49.6	- 4.0	84	1	19	18	53	1.51	+ 0.88	0.65	0	4	6	16	3	sw.	U. S. Weather Bureau.	
Siskiyou	Jackson	4,115	3	50.3	-	76	1	32	10	32	1.56	-	0.53	0	8	6	16	8	n.	J. A. Wright.	
Sparta	Baker	4,150	20	55.2	- 2.2	90	1	30	25	49	0.28	-	0.82	0.15	0	4	20	6	4	w.	John P. Gage.
Stafford	Clackamas	400	15	57.5	- 4.0	87	1	35	24	33	9.50	+ 7.18	3.68	0	16	15	12	3	w.	S. L. Brooks.	
The Dalles	Wasco	112	37	58.8	- 3.8	90	1	33	23†	32	9.92	+ 2.34	1.00	0	8	15	12	3	w.	C. B. Crosno.	
Toledo	Lincoln	75	21	58.8	+ 0.3	75	1	40	24	31	3.25	+ 0.58	0.80	0	7	22	4	4	w.	H. P. Osborne.	
Umatilla	Umatilla	340	23	62.3	- 3.2	93</															

TABLE 2.—*Daily precipitation for September, 1911. District No. 12, Columbia Valley.*

TABLE 2.—*Daily precipitation for September, 1911. District No. 12—Continued.*

TABLE 2.—*Daily precipitation for September, 1911. District No. 12—Continued.*

Stations.	Watershed.	Day of month.																																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total		
<i>Washington—Contd.</i>																																		
Lone Tree.....	Coast.....						.23			.13	.32		.03	.02	.06	.42	.49	.45				.11	.02	T.			.02			.14		2.44		
Longmires Springs.....	Puget Sound.....	T.	.06	.07	.21	T.					.17						.17	.22						T.									1.23	
Lost Creek.....	Columbia.....																																	
Lucerne.....	do.....						.12	.98	.08		.01	.10	.07								T.	.05									1.41			
McConihe.....	do.....						.20	.80	.40		.10	1.70			.10							.60	.20								4.20			
McCumbers Ranch.....	do.....																																	
Moses Lake.....	do.....																																	
Mottinger.....	do.....																																	
Mount Pleasant.....	Coast.....						.45	.03																										
Moxee.....	Yakima.....						.07	.69	.44	.32	.02	.03	.22									.05	.38	.02							0.96			
Newport.....	Fend O'reille.....						.39	.51	.18																							1.87		
North Head.....	Coast.....						.06	.25	.04		.01	.10	.23									.26									1.77			
Northport.....	Columbia.....						.17	.55	.05																							2.15		
North Yakima.....	Yakima.....						T.	.51	.86	.34	.01	.14	.26																		2.21			
Nutland.....	Columbia.....																																1.59	
Odessa.....	do.....																																1.32	
Olga.....	Puget Sound.....						.08	.26																								2.90		
Olympia.....	do.....						.14	.15																								3.84		
Omak.....	Okanogan.....						T.																										0.15	
Oroville.....	do.....						.45	.21	.01	.08	.06																				0.82			
Parker.....	Yakima.....						.01	.04	.64	.28	T.	T.																			1.69			
Peola.....	Snake.....						T.	1.25	.22																							1.71		
Pomeroy.....	Snake.....						.03	.22																								2.59		
Port Crescent.....	Coast.....						.03	.22																								3.04		
Port Townsend.....	Puget Sound.....						T.	.25																									1.47	
Pullman.....	Palouse.....																																.92	
Queets River.....	Coast.....						.03	.18	T.	.08	.03	.10	.30	.02	.05	.05	.09	1.09	.81	.17	.02	.03		.21	.26	T.	T.				3.65			
Quinault.....	do.....						.05	.40																								8.46		
Republic.....	Kettle.....						.09	.33	.07	T.	.02	.05		.03																	1.19			
Rex Creek.....	Columbia.....						.70	.50																								2.55		
Ritzville.....	do.....																																	1.51
Roch Lake.....	Palouse.....						T.																										1.27	
Rossila.....	do.....																																	.81
Russells Ranch.....	Yakima.....						T.	.94	.51	.14	.10	.14	.10																		3.90			
Seattle.....	Puget Sound.....						T.	.24	T.	T.	T.	.97	.69	.01																		3.27		
Sedro-Woolley.....	do.....																																5.27	
Sixprong.....	Columbia.....																																1.51	
Skagit Power Dam.....	Puget Sound.....																																2.31	
Snohomish.....	do.....																																2.01	
Snoqualmie Falls.....	do.....																																	5.82
Snyders Ranch.....	Columbia.....																																1.58	
South Bend.....	Coast.....						.05	.33	.01	.02																					3.03			
Spokane.....	Spokane.....						.08	T.	.47	T.																						.75		
State University.....	Puget Sound.....																																2.39	
Stokes Ranch.....	Columbia.....																																1.33	
Sumner.....	Puget Sound.....																																4.79	
Sunnyside.....	Yakima.....																																2.31	
Tacoma.....	Puget Sound.....																																4.70	
Tatoosh Island.....	Coast.....																																4.14	
Tieton.....	Yakima.....																																4.14	
Tonasket.....	Okanogan.....																																.83	
Touchet.....	Columbia.....																																.81	
Touchet Ridge.....	do.....																																5.28	
Trinidad.....	do.....																																1.58	
Vancouver.....	do.....																																4.88	
Vashon Island.....	Puget Sound.....																																3.29	
Wahluke.....	Columbia.....																																2.65	
Wallace.....	Okanogan.....																																1.45	
Walla Walla.....	Columbia.....																																6.09	
Watougal.....	do.....																																1.50	
Waterville.....	do.....																																2.60	
Wenatchee (near).....	do.....																																.60	
White Salmon.....	do.....																																1.06	
Wilbur.....	do.....																																7.87	
Wind River.....	do.....																																1.92	
Winthrop.....	do.....																																8.63	
Yale.....	do.....																																	
Zillah.....	Yakima.....																																	
Zindel.....	Snake.....																																	
<i>Oregon.</i>																																		
Adel.....	S. E. drainage.....																																4.23	
Albany II.....	Willamette.....																																	

TABLE 2.—*Daily precipitation for September, 1911. District No. 12—Continued.*

TABLE 2.—*Daily precipitation for September, 1911. District No. 12—Continued.*

Stations.	Watershed.	Day of month.																													Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Oregon—Continued.																																	
Reston.	Umpqua.			.35	.44	.01				.05		.06	1.31	.03			.18	.08															3.42
Richland.	Snake.	T.		T.	.08	.08																										0.16	
Riverdale.	Deschutes.			.20		T.																										0.20	
Riverside.	Malheur.			.18	1.03																											3.50	
Rock Creek.	Willamette.	T.		.21	.34	.38	.01			.13	.03		.18	.26	.20			.23	.29	.03										2.84			
Roseburg.	Umpqua.			.21	.34	.38	.01			.13	.03		.01	.56			.02	.01	.01												3.29		
Rosland.	Deschutes.	.21	.01	.24	.52	.12							.57		.02	.06	.01														4.56		
Salem.	Willamette.			.20	.12	.48	2.11	.25		T.	.09		T.	.32	.03	.12	.42													1.08			
Seneca.	SE. drainage.												.68																			1.51	
Silver Lake.	do.												T.	.55	T.	T.	.09														1.56		
Siskiyou.	Rogue.			.10	.38	.03							.04			.14															2.65		
Sisters.	Deschutes.	.22											.50	.22	.06			.05													0.28		
Sparta.	Snake.												T.	.15	.09																9.50		
Stafford.	Willamette.			.09	.28	1.90	3.68	.34	T.	.09	1.24	.02		.23	.05	.34	.24	.74	.03											1.41			
Starkey.	Gnd. Ronde.	.15	.02		.36	.10	.25		T.	.02	.30																			3.91			
Summit.	Willamette.			.03	.50	.86							.15		.11	.20		.42	.40	.31													
Summit Prairie.	Deschutes.																																
Susanville.	John Day.	.01			.01	.20	.14	.30	.03	T.																					0.86		
Tamarack.	do.	.05				.30	.23	.28	T.		.55		.05																		1.98		
Telocasset.	Snake.			.10	.40	.20	.01																								0.78		
The Dalles.	Columbia.			.92	.79	.02							1.00																		2.92		
Timroof Cabin.	Umatilla.	T.	T.	.07	.36	.18	.47						.02	T.																	1.20		
Toledo.	Coast.			.20	.70	.05																									3.25		
Trail.	Rogue.			T.	.40																											2.03	
Trask.	Coast.			.14	.23	.06	.34	.11					.06																		4.50		
Umatilla.	Columbia.			.31	T.	.04							.07																		1.50		
Unity.	Snake.																															0.46	
Vale.	Malheur.																															0.07	
Valley Falls.	SE. drainage.			.06	.45	.09				T.																					0.96		
Van.	Malheur.																																
Wallace Orchard.	Willamette.																																
Wallowa.	Gnd. Ronde.	.07	.18	.02	.20	.90	.14																									2.13	
Wallowa.	do.	T.	T.	.05	.39	.26																										1.07	
Wamic.	Deschutes.																																± 3.51
Warmspring.	do.			.30	.10								.75																			1.50	
Wasco.	Columbia.			.85	.83								.08	1.24			.12														3.43		
Welches	do.	.01	.52	.50	1.40	.48							.08	.72			.16	.20													6.63		
Westfall.	Malheur.																																
Weston.	Walla Walla.			T.	.55	.40	T.	T.	T.	.34			.25	T.			.15	T.												1.69			
Williams.	Rogue.				.20	.07											.30														0.82		
Yonna.	Int. drainage.				.10	.50											T.															1.49	

\* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

|| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 12, Columbia Valley.*

Date.	Montana.				Afton, Wyoming.		Idaho.																							
	Kalispell.		Missoula.				Boise.		Bonners Ferry.		Hot Spring.		Lewiston.		Mackay.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
1....	84	50	93	48	85	37	93	62	87	57	96	55	95	60	82	50	.....	84	54	87	44	.....	86	45	88	50				
2....	86	53	89	50	90	35	89	57	92	42	95	59	93	59	81	46	.....	90	55	81	43	.....	85	47	92	51				
3....	70	54	84	55	82	39	75	60	72	46	86	60	77	62	79	45	.....	78	53	78	41	.....	83	45	66	54				
4....	61	44	72	52	79	37	78	52	61	42	88	59	79	56	73	45	.....	82	45	76	39	.....	75	39	65	52				
5....	50	42	62	42	69	40	64	49	55	45	82	53	63	55	70	38	.....	64	46	71	41	.....	65	41	50	44				
6....	54	37	50	40	63	29	65	46	60	40	70	45	56	51	51	30	.....	63	45	57	41	.....	56	34	58	42				
7....	56	33	62	34	62	27	69	41	67	30	70	42	72	50	58	34	.....	68	38	64	41	.....	62	34	63	31				
8....	62	38	62	38	75	27	77	50	74	34	80	45	77	52	66	33	.....	75	42	65	37	.....	69	33	68	35				
9....	70	41	75	38	78	29	83	54	75	41	84	43	75	56	75	40	.....	82	48	70	37	.....	80	44	70	44				
10....	71	45	81	43	80	35	81	48	78	41	83	48	83	57	86	37	.....	83	52	80	38	.....	80	44	77	46				
11....	82	45	84	45	81	36	81	51	83	41	81	55	82	54	80	40	.....	85	54	74	41	.....	83	42	84	45				
12....	76	46	79	49	77	42	83	61	87	43	87	57	81	56	78	42	.....	81	57	79	47	.....	75	45	86	46				
13....	64	52	70	54	.....	44	68	50	62	49	73	46	72	53	78	49	.....	69	53	73	51	.....	69	50	56	46				
14....	65	46	73	34	.....	26	79	42	76	40	84	42	81	45	79	46	.....	73	37	68	33	.....	68	28	69	40				
15....	61	41	70	38	.....	30	74	54	64	42	80	50	71	56	70	32	.....	75	50	70	35	.....	71	26	56	46				
16....	55	36	62	38	.....	28	63	45	50	44	68	42	64	50	71	32	.....	65	48	71	34	.....	65	38	51	40				
17....	48	42	53	40	.....	23	61	35	62	36	67	34	70	44	74	34	.....	58	36	70	33	.....	62	36	50	38				
18....	57	40	68	32	.....	16	70	38	64	37	70	34	74	41	73	26	.....	66	31	62	28	.....	60	22	64	32				
19....	60	32	65	28	.....	20	72	41	64	43	78	35	75	47	66	32	.....	70	35	63	29	.....	66	28	65	34				
20....	65	39	71	45	.....	21	72	40	60	40	82	38	77	47	68	32	.....	70	34	65	28	.....	67	23	64	40				
21....	63	47	74	38	.....	25	80	44	64	33	86	40	76	46	73	32	.....	79	49	64	30	.....	72	28	62	44				
22....	48	35	68	42	.....	40	66	51	50	35	82	40	65	45	73	45	.....	72	50	70	34	.....	65	48	55	46				
23....	49	33	60	29	.....	34	72	39	64	34	84	44	69	37	70	40	.....	69	42	71	34	.....	70	32	58	30				
24....	54	32	62	27	.....	34	69	46	55	28	86	40	69	35	71	44	.....	70	49	75	35	.....	68	35	60	29				
25....	60	26	70	25	.....	44	80	46	64	30	83	38	72	34	68	32	.....	75	47	65	28	.....	73	34	69	28				
Mns..	62.0	40.1	70.1	38.9	.....	31.8	73.2	47.1	66.9	39.5	79.7	44.9	74.0	48.5	71.3	37.3	.....	72.9	45.3	70.6	35.8	.....	70.4	36.8	65.0	40.2				
Date.	Aberdeen.				Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong.		Spokane.		Tacoma.		Tatoosh Island.	
	Aberdeen.		Blaine.		Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong.		Spokane.		Tacoma.		Tatoosh Island.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1....	74	50	73	45	92	47	84	47	90	62	56	53	90	62	91	55	61	45	75	57	94	66	90	55	73	56	61	51		
2....	76	49	71	46	95	42	79	49	84	56	59	54	90	63	93	58	62	45	72	56	93	62	92	57	74	54	55	52		
3....	68	52	64	55	73	54	67	55	82	55	62	54	87	60	78	46	59	52	68	56	80	50	57	72	58	66	59	53		
4....	67	45	65	53	67	55	65	52	83	55	55	52	74	52	75	46	56	45	64	55	69	50	69	53	63	57	50	50		
5....	64	51	72	44	62	46	58	54	65	52	58	51	58	51	74	44	60	45	69	55	59	51	58	47	68	54	54	50		
6....	65	51	70	52	63	46	63	53	59	50	56	54	60	51	62	54	65	57	59	51	59	45	64	47	57	58	52	52		
7....	69	54	66	56	66	42	68	56	67	52	60	55	69	52	70	49	62	51	72	57	69	50	64	40	67	58	58	52		
8....	60	51	63	53	70	38	65	53	69	54	56	54	72	55	73	42	57	50	61	54	73	55	68	42	62	55	56	51		
9....	59	51	64	50	86	40	57	50	50	51	56	52	68	55	71	45	56	50	63	53	76	54	67	57	51	54	50	50		
10....	71	47	63	48	87	43	71	46	77	54	57	50	72	50	75	39	60	50	62	47	73	50	71	55	61	46	66	51		
11....	72	51	69	47	86	42	70	46	82	53	56	53	76	52	79	37	66	42	68	51	80	54	84	49	67	50	55	48		
12....	68	47	67	54	85	40	61	45	77	60	59	55	74	57	80	41	56	50	60	53	73	54	77	53	52	55	49	49		
13....	65	53	61	53	72	40	63	46	71	52	52	54	71	45	85	39	59	49	64	54	70	50	65	48	64	56	53	53		
14....	58	48	63	52	75	37	64	41	70	48	57	54	68	43	81	36	56	49	63	53	73	47	63	50	57	52	52			
15....	59	45	53	47	68	45	55	45	68	52	56	50	67	47	70	39	56	45	57	50	67	48	58	49	55	49	49			
16....	61	46	63	48	65	42	59	45	68	46	60	50	65	37	71	34	55	45	61	50	62	44	59	43	61	48	56	51		
17....	65	41	61	38	67	36	65	49	72	47	57	51	66	42	73	32	57	39	64	50	68	42	63	48	56	48	56	52		
18....	71	40	69	35	72	37	67	55	71	47	59	50	66	40	70	32	56	38	63	47	72	40	69	39	61	40	54	48		
19....	66	40	62	42	73	37	65	41	76	51	57	53	74	44	71	39	57	38	65											

TABLE 3.—*Maximum and minimum temperatures for September, 1911. District No. 12—Continued.*

Date.	Walla Walla, Wash.		Oregon.																					
			Ashland.		Baker.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1.....	93	68	84	53	87	53	83	52	.....	.....	94	58	64	52	82	58	91	39	84	54	90	61	99	46
2.....	90	66	83	69	86	50	70	46	.....	.....	92	56	67	55	72	60	90	38	74	52	82	62	96	57
3.....	76	61	79	48	67	48	74	55	.....	.....	92	49	68	57	68	58	90	38	76	56	75	62	89	64
4.....	69	54	65	50	61	39	63	51	.....	.....	83	47	64	51	55	55	86	40	64	50	62	55	79	54
5.....	56	51	60	47	58	41	61	51	.....	.....	64	48	60	54	60	54	83	36	62	51	65	41	71	46
6.....	63	51	68	45	54	44	65	55	.....	.....	63	52	64	55	67	58	88	39	66	56	68	55	67	45
7.....	70	53	73	43	64	41	71	50	.....	.....	75	46	68	50	74	55	86	38	72	52	73	51	78	37
8.....	76	55	75	49	70	45	70	52	.....	.....	78	54	66	51	68	56	80	34	71	53	67	57	82	40
9.....	64	55	65	48	73	48	67	50	.....	.....	76	55	67	46	63	53	86	33	67	47	65	53	88	43
10.....	67	54	66	43	76	52	66	45	.....	.....	75	50	64	44	67	50	88	34	66	44	70	45	86	42
11.....	77	54	66	43	80	52	68	46	.....	.....	78	48	66	49	68	53	76	31	69	48	75	50	89	43
12.....	78	54	57	46	78	47	60	43	.....	.....	82	49	62	49	57	48	80	34	62	51	69	55	83	30
13.....	69	53	67	41	62	38	70	48	.....	.....	84	52	63	48	69	54	81	32	72	49	69	50	84	35
14.....	80	53	76	42	73	35	72	45	.....	.....	82	40	67	47	65	48	76	32	76	44	67	45	74	42
15.....	69	53	70	41	67	45	67	50	.....	.....	75	52	68	50	64	52	74	36	70	49	67	49	70	35
16.....	63	50	65	49	55	35	65	44	.....	.....	74	58	65	44	61	50	81	34	66	46	64	44	75	26
17.....	66	48	68	39	57	32	64	43	.....	.....	75	44	64	43	66	48	80	32	68	44	63	47	79	27
18.....	74	49	75	43	65	29	67	39	.....	.....	76	35	66	40	68	47	79	32	74	41	70	41	79	33
19.....	73	51	74	42	67	37	69	42	.....	.....	78	42	64	49	68	47	70	30	74	40	72	45	86	30
20.....	76	52	78	42	72	35	70	41	.....	.....	80	45	65	42	67	46	73	33	78	42	73	47	74	52
21.....	72	56	77	46	77	38	69	44	.....	.....	78	58	62	46	67	51	70	32	66	41	69	52	71	48
22.....	64	49	65	46	59	27	64	39	.....	.....	69	47	65	40	65	47	63	31	65	40	65	42	74	50
23.....	68	46	72	39	56	33	64	43	.....	.....	75	26	63	44	65	45	70	36	69	42	65	38	73	30
24.....	68	43	73	42	62	30	65	44	.....	.....	71	28	65	37	67	43	70	34	71	37	69	38	79	33
25.....	68	42	65	46	68	30	64	41	.....	.....	72	30	58	41	70	48	74	33	64	46	69	37	76	35
26.....	64	46	58	42	59	37	56	47	.....	.....	72	52	56	49	57	51	76	34	56	48	61	52	70	51
27.....	68	44	60	47	58	31	62	47	.....	.....	73	36	63	50	62	52	60	31	63	48	65	38	73	31
28.....	69	49	63	38	63	32	62	45	.....	.....	72	37	64	43	66	50	63	32	66	45	67	45	73	30
29.....	69	47	59	40	68	32	65	42	.....	.....	74	34	61	41	64	44	67	32	67	44	67	43	76	25
30.....	68	45	59	45	65	31	63	43	.....	.....	72	36	61	44	64	45	69	32	59	46	64	40	74	40
Means.....	70.8	51.7	68.8	45.1	66.9	39.2	66.5	46.1	.....	.....	76.8	45.1	64.2	47.0	66.0	50.9	77.3	34.1	68.6	47.0	68.9	48.6	78.9	40.2

<sup>a, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.</sup><sup>b</sup> Data are from standard instruments not supplied by the U. S. Weather Bureau.<sup>c</sup> Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.